Work Order ID 100359
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Page 1

April-22-13 1:02:34 PM Accept D3916-041 \*N900040100\* Item ID: **Revision ID:** Rib Assembly Item Name: Start Qty: 6.00 **Start Date:** 5/06/13 **Cust Item ID: Reg'd Qty:** 6.00 Required Date: 5/06/13 **Customer:** Reference: Run Date: 13 04-23 Tooling: Process Plan: MUS Date: Approvals: Stop Date: SPC (Y/N): Date: 'Tool # Plan Reject Reject Operation Set Up/ Tool ID Accept Insp. Sequence ID/ Qty **Work Center ID** Description Code **Qty** Number Stamp **Run Hours Draw Nbr Revision Nbr** D3916 Α 0.00 .100 ic 13-9-12 \*100\* 0.00 Large Fab Memo Large Fab 1- Cut tube 50" 2- Bend tube with manuel pipe bender as per DT9567 \*\*\* Make line at 9.00" and use jig for other lines, and ensure seam in place on side of tube when bending\*\*\* 3- Trim access tube material to finish size as per dwg D3916 4- Drill and chamfer holes as per dwg D3916-1 using DT9605 105 QC6- Inspect dimensions to drawing 0.00

\*105\*

QC

Memo

0.00

Quality Control

8x Sy 13.09.12

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NCR: Y	es / No				WORK ORDER NON-	-CONFO	RMANCE / UF	PDATE	QA Closed:	Date:		
					DISPOSITION	·	· · · · · · · · · · · · · · · · · · ·	AGAINST DE				
Work Orde	r:				, , , ,	<b>-</b>	a : 4 4 5 - [ ]	Constant of the Constant of th	Water Jet Engineering			
Part N	0				Rework Scrap Use-as-is	The	Skid-tube Machining moforming	Crosstube Small Fab Finishing	-1	d. Eng. Coor. re/Packaging	Engineering Quality Other	
NCR N	o			· · · · · · · · · · · · · · · · · · ·	Work Order Update	_	Large Fab	Composite		Supplier		
Root				Descr	iption of work order update	Initial	Α	ction	Sign &			
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	Cracks				Broken/Damaged	· ·	ction Incomplete		Part Incorre	<u> </u>	Weld	
	Crushed,	/Crimped			Burrs	Instru	ictions Incomplete	:/Unclear	Part Lost/M		Wrong Stock Pulled	
	Cuffs				Contamination	Mair	tenance	L	Part Moved			
	Heat Tre				Countersink	Misla	beled		Positioned \		_	
	Inspection	on Strip in	Tube		Cut Too Short	Misre		L	Power Loss/	/Surge	Other	
	Ripples i	n Bend			Drill Holes	Offse	t				·	
	Torque \	Waves in I	Extrusio	n _	Drawing	Out o	f Calibration				<u>.</u> .	
Turning Sequence					Finish	Out o	f Sequence					

Outside Dimensions

Wave/Twist in Tube

Folio

Apru-22-13 1.0	12.34 T IVI							
Item ID: Revision ID:	D3916-041		<u> </u>	Accept	*N90004	<b>೧1</b> ೧೧*	Setup Start Stop	14.21
Item Name:	Rib Assembly							*NS2*
Start Date:	5/06/13	Start Qty: 6.00	*6*		Cust Item ID:			
Required Date:	: 5/06/13	Req'd Qty: 6.00	*6*		Customer:			·
Reference:							· .	
Approvals:	Process Pla	n:	Date:	Tooling:	Date:		Run Start	*NR1*
	QC:		Date:	_ SPC (Y/N):	Date:		Stop	*NR2*
Sequence ID/ Work Center II	D	Operation Description Weld per dwg A/R S.S	rod Batch: <u>B/238</u> Z	Set Up/ Run Hours	Tool ID Tool	# Plan Accept Code Qty	Qty 1	Reject Insp. Number Stamp
*107* Large Fab		<b>Memo</b> 1- weld bus 2- grind wel	hing as per dwg D3916 ds flush	0.00		( <u>88) ((</u>	<u> 13-9</u> -	/6
110		QC5- Inspect part comp	deteness to step on W/O	0.00				
*110* QC Quality Control		Memo		0.00		8×	Jy i	13-09-16
120		QC10- Inspect visual pe	r QS1004- ground welds	0.00				1
*120*		D. (		0.00	· .	8 +		13.09.16
Quality Control	٠.	Memo		0.00				

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WOIR OIGE	-				Rework	7		Skid-tube	Crosstube	ube Water Jet Engineerin					]
Part No	o				Scrap		ſ	Machining	Small Fab		4	d. Eng. Coor.	_	Quality	
					Use-as-is	] ]		noforming	Finishing	-	Rec/Sto	re/Packaging	-	Other	4
NCR N	o			<del></del>	Work Order Update	J		Large Fab	Composite			Supplier		. L	J
Root				Descri	ption of work order update	In	itial	Act	tion		Sign &				
Cause	Date	Step	Qty		or Non-conformance	Chie	ef Eng	Desci	ription		Date	Verificatio	n	QC Inspector	
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Other	_	1	i												
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	Bending			ļ	Bend	$\boldsymbol{\vdash}$	Grain			$\vdash$	Ovalized		-	Pressure/Forced	
1	Centre No	ot Conce	ntric to (	o/s	BOM/Route	-	lardwa			<u> </u>	Over/Under		-	Temperature/Cure	;
<u> </u>	Cracks				Broken/Damaged	$\rightarrow$	•	on Incomplete		_	Part Incorre		-	Weld	
L	Crushed/	Crimped		<u> </u>	Burrs	-		ions Incomplete/	Unclear		Part Lost/Mi	ssing	<u></u> Ш	Wrong Stock Pulle	d
	Cuffs			_	Contamination	<del></del>		nance		_	Part Moved				
, [	Heat Trea			<u> </u>	Countersink	$\mathbf{H}$	Mislabe				Positioned V	_			
L	Inspectio		Tube	<u> </u>	Cut Too Short	<b>├</b> ──	Visread	İ			Power Loss/	Surge	$\Box$	Other	
	Ripples in				Drill Holes	$\vdash$	Offset								
	Torque W			n	Drawing	$\mathbf{H}$		Calibration						· · · · · · · · · · · · · · · · · · ·	
Ĺ	Turning S	-		<u></u>	Finish	$\vdash$		Sequence							
	Wave/Twist in Tube			Folio		Outside Dimensions									

Work Ord		00359		*100	1359*							Page
Item ID: Revision ID: Item Name:	D3916-041	y		Accept	*N900	)*	-	Start Stop	1 4	S1* S2*		
Start Date: Required Dat Reference:	5/06/13 <b>e:</b> 5/06/13	Start Qty: 6.00 Req'd Qty: 6.00	*6* *6*		Cust Item ID: Customer:							
Approvals:	Process Pl	an: Date: Date:		Tooling: SPC (Y/N):	D:		Run	Start Stop	*N *N	R1* R2*		
Sequence ID/ Work Center 130 *130* Packaging	lD	Operation Description Identify as per dwg & St	ock Location: W///	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accep Qty	t Reje Qty	1	Reject Number 7 <i>-9-1</i>	Insp. Stamp

140

QC21- Final Inspection - Work Order Release

0.00

\*14**0**\*

Packaging

Memo

Quality Control

0.00

MC9 13-09-17 MCD 13-09-17

Page 3

NCR:	Yes		No
MC.IV.	163	•	1110

## **WORK ORDER NON-CONFORMANCE / UPDATE**

Date:

NCN.	ES / INU				WORK ORDER HOR-		WANCE, OF	DAIL	QA Closed:	Date:	Side by
Work Orde	i.	·			DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No					Rework Scrap		Skid-tube Machining	Crosstube Small Fab	-	Water Jet d. Eng. Coor	Engineering Quality
NCR N	o				Use-as-is Work Order Update	Ther	moforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root				Descri	ption of work order update	Initial	Ad	ction	Sign &	···	
Cause	Date	Step	Qty	(	or Non-conformance	Chief Eng	Dese	cription	Date	Verification	QC Inspector
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Operator											
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Landin	<del>`</del>				General			· .	1		-
.	Bending		·		Bend	Grain			Ovalized		Pressure/Forced
	Centre No	ot Concer	ntric to	o/s	BOM/Route	Hardw		_	Over/Under		Temperature/Cure
	Cracks				Broken/Damaged	<del></del>	tion Incomplete	_	Part Incorre		Weld
	Crushed/	Crimped			Burrs	Instru	ctions Incomplete,	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs			<u>.</u>	Contamination	Maint	enance		Part Moved		
	Heat Trea	it		[	Countersink	Mislak	eled		Positioned V	Vrong	<u> </u>
	Inspection	n Strip in	Tube		Cut Too Short	Misrea	ad		Power Loss/	Surge	Other
	Ripples in	Bend			Drill Holes	Offset					
. [	Torque W	aves in E	xtrusio	n 「	Drawing	Out of	Calibration				
	Turning S	equence			Finish	Out of	Sequence				
Wave/Twist in Tube					Folio	Outsic	le Dimensions				

April-22-13 1:02:33 PM

Work Order ID:

100359

Parent Item:

D3916-041

Parent Item Name:

Rib Assembly

**Start Date:** 5/06/13

Required Date: 5/06/13

Start Qty: 6.00

Required Qty: 6.00

**Comments:** 

IPP RevA: New issue DD verified by:EC

verified by:EC

IPP Rev:B as per dwg revA 10.03.15

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3759-1		Manufactured	No		· ·- <del>-</del> ·-	100	Each	316.0000	7	42	101	3 - 9-	17
Bushing									eu		(( )	)	1_4
				<b>Location</b>		Loc Oty	<u>Lo</u>	c Code					
				WA004		316	B1020	D73 -	— <del></del>	6K)			
				66489	)	1	10.	-					
				79213	3	1			-				
				83464	1	7							
		•		86550	)	20							
				88236	5	3							
				89780	)	3						÷	
				90786	5	11							
				98089	•	30							
				98756	5	240							
M304TS0.750W.049	aw	Purchased	No			100	f	970.7307	4.166	26.3115	79 CC 1	3-9.	/Z_
304 SQ Tube .75x.75x.049	9W			Location		Loc Oty	Q va ca	c Code				. <del>9_</del>	2-4-

Location	Loc Oty Loc Code	2.4
MAT017	241.6869 B176039	3 36.
124492	241.6869	
WA006	729.0438355	
123219	16.0438355	
123484	113	
125124	600	

												DQA:	Dat	te:	
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				•								QA Closed:	Dat	te:	
Work Orde	oř:					DISPOSITION				AGAINST I	DE	PARTMENT	PROCESS		
Part N	- No				· · · · · · · · · · · · · · · · · · ·	Rework Skid-tube Crosstube  Scrap Machining Small Fab  Use-as-is Thermoforming Finishing  Work Order Update Large Fab Composite				Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering Quality Other		
Root	I				Descri	ption of work order update		nitial	Ac	tion		Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription		Date	Verification	<u>1</u>	QC Inspector
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		Bending				Bend		Grain		<u> </u>		Ovalized	,		Pressure/Forced
	Ш	Centre No	t Concer	ntric to	o/s	BOM/Route		Hardwa	re	ļ		Over/Under	tolerance		Temperature/Cure
	Ш	Cracks				Broken/Damaged		Inspecti	on Incomplete	1		Part Incorred	it		Weld
		Crushed/0	Crimped			Burrs		Instruct	ions Incomplete/	Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	enance	Ĺ		Part Moved			
		Heat Trea	t			Countersink		Mislabe	led			Positioned V	/rong		•
	Cuffs Heat Treat Inspection Strip in Tube				Cut Too Short		Misread	i			Power Loss/:	Surge	, 7	Other	

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

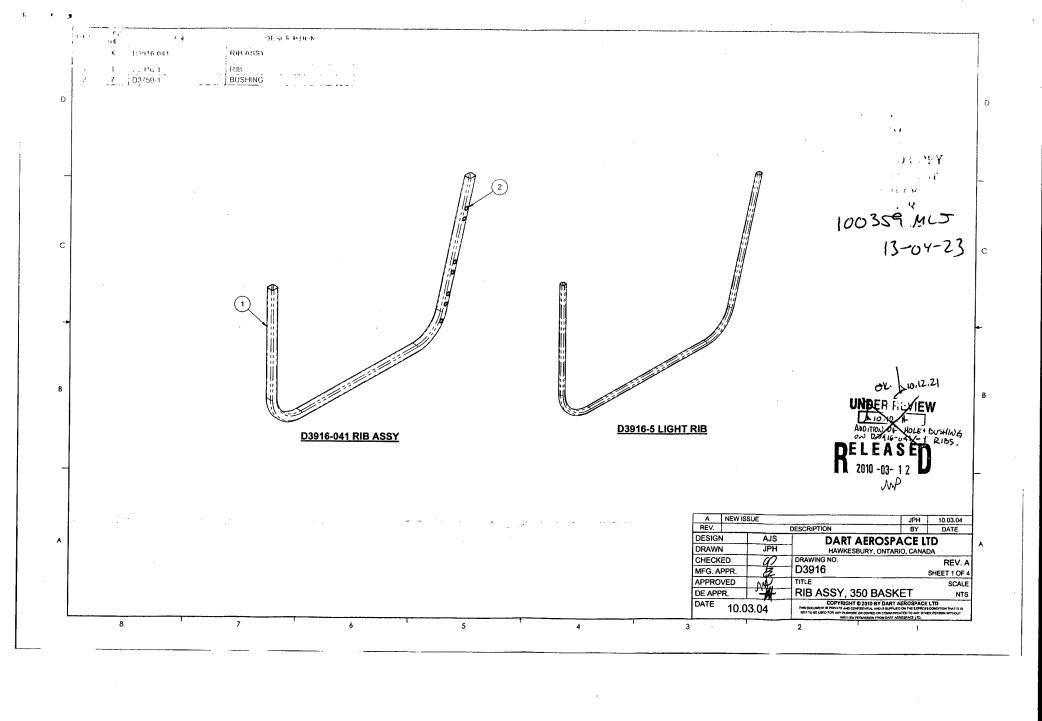
Ripples in Bend

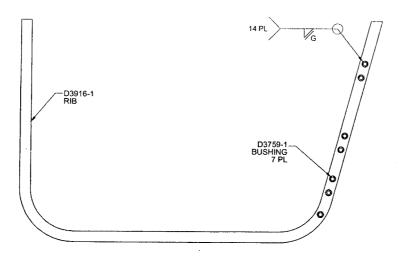
Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio





NOTES:
1) MATERIAL: N/A
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: NONE
7) WEIGHT -041: 1,84 lbs
8) WELD PER DART QSI 004

8

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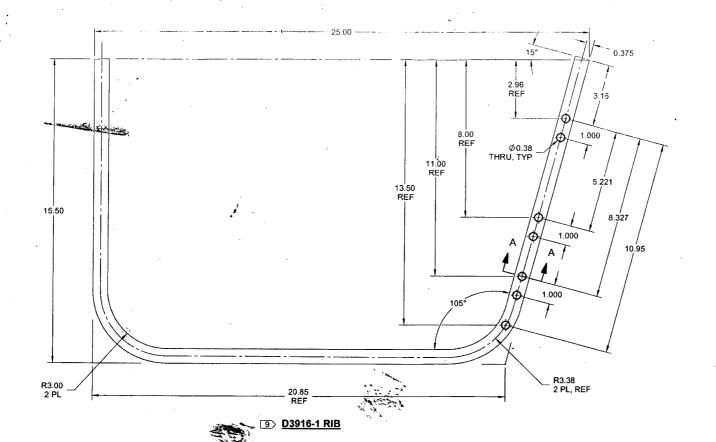
DESIGN AJS DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWN JPH DRAWING NO. CHECKED REV. A MFG. APPR. SHEET 2 OF 4 APPROVED TITLE SCALE RIB ASSY, 350 BASKET NTS

COPYRIGHT 0 2010 BY DART ARROSPACE LTD

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THE ODD CORPORATION OF THE OTHER OF THE OTHER OF THE OTHER DE APPR. NTS DATE 10.03.04

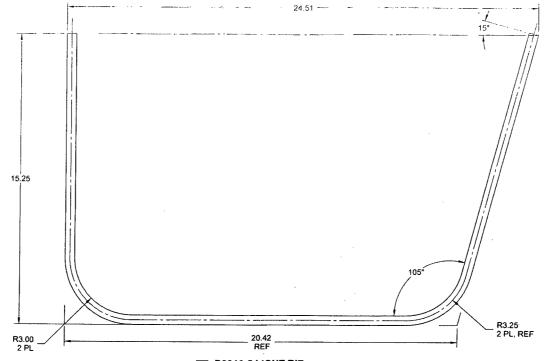
D3916-041 RIB ASSY



BREAK EDGE 0.030 X 45° APPROX CHAM TYP 0.049 0.75 REF REF **SECTION A-A** 

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL
REF DART SPEC. M304TS0.750W.049
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 1.76 lbs
9) TUBE FLAT LENGTH 50.0 REF
•

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA							
DRAWN	JPH								
CHECKED	a	DRAWING NO.	REV. A						
MFG. APPR.	瑟	D3916	SHEET 3 OF 4						
APPROVED	NS.	TITLE	SCALE						
DE APPR.	-	RIB ASSY, 350 BASKET	NTS						
DATE 10.0	3.04	COPYRIGHT @ 2010 BY DART AEROSPACE LTD THIS DOUGLET IS SPANTE AND CONFERENCE, NOT BE SUPPLED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COOPED OR COMMANDATED TO ANY OTHER PERSON WITHOUT							



9 <u>D3916-5 LIGHT RIB</u>

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL REF DART SPEC. M304TS0.500W.049
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 1.07 lbs
9) TUBE FLAT LENGTH 49.5 REF

DESIGN AJS DART AEROSPACE LTD DRAWN HAWKESBURY, ONTARIO, CANADA CHECKED DRAWING NO. REV. A D3916 MFG. APPR. SHEET 4 OF 4 TITLE APPROVED SCALE RIB ASSY, 350 BASKET NT
COPYRIGHT © 2010 BY DART ARROSPACE LTD
HIS ODDARUT OR MOUTE CONTROL AND CONTROL AND TO BE USED TO ANY TURNED WITH THE OWN THE THIRD WITH THE OWN THE O DE APPR. NTS DATE 10.03.04